TESORO

Tesoro Refining & Marketing Company LLC
Martinez Refinery
150 Solano Way
Martinez, CA 94553-1487

January 22, 2019

USPS CERTIFIED MAIL: 7018 0680 0000 1371 8938

Mr. Jeffrey Gove
Director of Compliance and Enforcement
Bay Area Air Quality Management District
375 Beale Street, Suite 600
San Francisco, CA 94105

SUBJECT: Title V Semi-Annual Monitoring Report for the Martinez Refinery (Plant ID B2758), and Amorco Terminal (Plant IDs B2759 and E1200)
Reporting Period: July 1, 2018 to December 31, 2018

Dear Mr. Gove:

Pursuant to the requirements outlined in Section I, Standard Conditions, Part F of the Tesoro Refining & Marketing Company LLC Title V Permit (issued January 11, 2016), and the Tesoro Logistics Operations LLC Title V Permit (issued August 5, 2013), the attached document includes information for deviations reported to have occurred during the reporting period. The Semi-Annual Monitoring report consists of two parts. The first part summarizes all the Inoperative Monitors reported for the reporting period; the second part summarizes all the Title V deviations reported for the reporting period. This Title V Semi-Annual Monitoring Report contains the signature of Tesoro's responsible official, Mr. Thomas A. Lu, as required by Regulation 2-6-502, and by 40 CFR Part 70.6.

For questions, please contact David Chetkowski of my staff at (925) 335-3451.

Sincerely,

June Christman
Manager, Environmental

JMC/DMC/kds
Attachment

cc: Mr. Ray Salilila, BAAQMD Enforcement Inspector (E-mail)

File No. AI-02-05-05; Read File No. 7104
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Tesoro Martinez Refinery and Amorco Terminal
Inoperative Monitors
Reporting Period: 7/1/2018 to 12/31/2018

Inoperative Monitors as defined by BAAQMD Regulations 1-522 and 1-523 for the reporting period are summarized below:

Date	IMF ID#	Unit	Pollutant / Parameter
7/24/2018	07H88	Sulfuric Acid Plant	SO2
7/28/2018	07H90	4HDS Furnace F-72	NOX
7/31/2018	07H92	FCCU/7 Boiler	NOX/SO2/CO/O2
8/3/2018	07H93	3HDS Furnace F-55/F-56	NOX
8/6/2018	07J14	Furnace F-50	NOX
8/16/2018	07J00	FCCU/7 Boiler	NOX
9/10/2018	07J15	Chenery GLM	SO2/H2S
10/13/2018	07J57	Waterfront Road GLM	H2S
11/15/2018	07J96	1HDS Furnace F-17	Fuel Flow
11/15/2018	07J95	6 Boiler	NOX

Certification Statement

I certify under penalty of law that based on the information and belief formed after reasonable inquiry, the statements and information in this document and in all attachments and other materials are true, accurate and complete

Signature of Responsible Official

Vice President, Martinez Refinery

Title

1/22/2019

Date

BAAQMD Title V Permit
Semi-Annual Monitoring Report

July-18 – December-18

B2758/B2759/E1200 – Tesoro Martinez Refinery and Amorco Terminal

Facility Address:			Mailing Address:		
150 Solano Way			150 Solano Way		
City: Martinez	State: CA	Zip Code: 94553	City: Martinez	State: CA	Zip Code: 94553

Contact:	Title:	Phone:
June Christman	Environmental Manager	925 - 370 - 3275

Applicable Regulation / Permit Condition / Other:
BAAQMD 9-2-301

Date Event Started:	Date Event Stopped:			
07/14/2018	07/19/2018	Source (S#): B2758	Abatement Device (A#):	Emission Point (P#):

Event Description: Elevated H2S concentrations were monitored at the Waterfront Road GLM. The excess was reported to the District on 7/16/2018 as RCA 07H79. On 9/17/2018, BAAQMD assigned five additional RCA numbers to the reported event: 07J17, 07J18, 07J19, 07J20, and 07J21.

Probable Cause:

The Oxidation Pond was upwind of the GLM site during the periods of indicated excess, and H2S readings taken around the Ox Pond with a Jerome handheld H2S monitor confirmed that the Ox Pond was the source of H2S. The H2S emissions from the Ox Pond were caused by sulfur reducing bacteria living in the pond. Residence time in the Ox Pond is approximately 30-days, and no single event caused H2S emissions to increase throughout the pond. However, the refinery has identified a number of WWTP excursions that occurred during the weeks prior to the first GLM excess which cumulatively changed conditions in the Ox Pond. Excursions include the planned turnaround work in the WWTP and API separator, COD loading excursions, and pH adjustment excursions.

Corrective Action or Preventive Steps Taken:

The number of aerators in the pond was increased, and a total of approximately 45,000 gallons of 27% peroxide was added to the pond (7/18, 7/19, 7/24, 7/27, 7/28, 8/2, 8/3, 8/7, 8/8, and 8/10). The refinery also began adding new microorganisms and a chemical additive to the WWTP system on 8/17. The new microorganisms use sulfides, including H2S, as their energy source for metabolism, and reduce sulfides to elemental sulfur. The chemical additive retards the activity of sulfate-reducing bacteria, the predominant producers of H2S in WWTP systems, by offering the bacteria an alternative oxygen source.

Applicable Regulation / Permit Condition / Other:
Title V-VI(11433)(9)

Date Event Started:	Date Event Stopped:			
07/19/2018	07/19/2018	Source (S#): S802	Abatement Device (A#): A30, S901	Emission Point (P#):

Event Description: The FCCU (S-802) and 7 Boiler (S-901) indicated a CO excess on 7/19/2018. The event was reported to the District on 7/19/2018 as RCA 07H84.

Probable Cause:

Firebox temperature cooled into a CO-promoting range.

Corrective Action or Preventive Steps Taken:

Operators adjusted the excess O2 setpoint and reduced blower RPM to increase firebox temperatures and reduce CO emissions.

Applicable Regulation / Permit Condition / Other:
BAAQMD 9-2-301

Date Event Started:	Date Event Stopped:			
07/23/2018	07/31/2018	Source (S#): B2758	Abatement Device (A#):	Emission Point (P#):

Event Description: Elevated H2S concentrations were monitored at the Waterfront Road GLM. The excess was reported to the District on 7/23/2018 as RCA 07H89. This reported excess is a continuation of the previously reported RCA 07H79. On 9/17/2018, BAAQMD assigned five additional RCA numbers to the reported event: 07J22, 07J23, 07J24, 07J25, 07J26, 07J27, 07J28, and 07J29.

Probable Cause:

The Oxidation Pond was upwind of the GLM site during the periods of indicated excess, and H2S readings taken around the Ox Pond with a Jerome handheld H2S monitor confirmed that the Ox Pond was the source of H2S. The H2S emissions from the Ox Pond were caused by sulfur reducing bacteria living in the pond. Residence time in the Ox Pond is approximately 30-days, and no single event caused H2S emissions to increase throughout the pond. However, the refinery has identified a number of WWTP excursions that occurred during the weeks prior to the first GLM excess which cumulatively changed conditions in the Ox Pond. Excursions include the planned turnaround work in the WWTP and API separator, COD loading excursions, and pH adjustment excursions.

Corrective Action or Preventive Steps Taken:

The number of aerators in the pond was increased, and a total of approximately 45,000 gallons of 27% peroxide was added to the pond (7/18, 7/19, 7/24, 7/27, 7/28, 8/2, 8/3, 8/7, 8/8, and 8/10). The refinery also began adding new microorganisms and a chemical additive to the WWTP system on 8/17. The new microorganisms use sulfides, including H2S, as their energy source for metabolism, and reduce sulfides to elemental sulfur. The chemical additive retards the activity of sulfate-reducing bacteria, the predominant producers of H2S in WWTP systems, by offering the bacteria an alternative oxygen source.

Applicable Regulation / Permit Condition / Other:
BAAQMD 1-522(6)

Date Event Started:	Date Event Stopped:			
08/06/2018	08/20/2018	Source (S#): S950	Abatement Device (A#): A1432	Emission Point (P#):

Event Description: The NOX CEMS for Furnace F-50 failed a Field Accuracy Test performed by BEST Environmental on 8/6/2018 (NST-5102). Based on preliminary results, a retest was proactively scheduled and performed on 8/20/2018, prior to receiving the final test results of the FAT. The CEMS passed the FAT on 8/20/2018 (NST-5102). An inoperative monitor report (07J14) was submitted on 9/10/2018, after receiving the final results of the 8/6/2018 FAT.

Probable Cause:

Maintenance was performed on the analyzer, and the analyzer's response was found to be non-linear.

Corrective Action or Preventive Steps Taken:

Because raw data collected during the FAT performed on 8/6 indicated that the analyzer might fail, maintenance was performed on the analyzer, and adjustments made to correct the discovered non-linear response. A second FAT was performed on 8/20/2018. The refinery will create a quarterly preventative maintenance task for this analyzer that will include a three-point linearity check.

Applicable Regulation / Permit Condition / Other:
Title V-VI(8535)(2)

Date Event Started:	Date Event Stopped:			
08/09/2018	08/13/2018	Source (S#):	Abatement Device (A#): A1422	Emission Point (P#): S1422

Event Description: The Calvert scrubber ID fan automatically shutdown on high vibration caused by solids deposition on the rotating fan blades.

Probable Cause:

The fan shutdown due to an imbalance (high vibration) caused by solids deposition on the fan's rotating parts. The length of the outage was prolonged by not assigning high work priority in the work flow management system. The low priority caused a delay in returning the scrubber to service.

Corrective Action or Preventive Steps Taken:

The frequency of preventative maintenance washing of the ID fan has been increased to weekly. In addition, Environmental met with Operations and Maintenance to ensure future work on the scrubber is properly prioritized.

Applicable Regulation / Permit Condition / Other:
BAAQMD 8-5-304(4)

Date Event Started:	Date Event Stopped:			
08/19/2018	08/20/2018	Source (S#): B21	Abatement Device (A#):	Emission Point (P#):

Event Description: Tank B-21 at Amorco Terminal (B2759 and E1200) had its legs deployed in preparation for a turnaround. Leg height was set at 6.5 ft.

Probable Cause:

Administrative controls to prevent the level from dropping below the leg height were not sufficient, and the roof landed on 8/19/2018. The liquid level dropped to 6.36 ft before transfer out of the tank was stopped.

Corrective Action or Preventive Steps Taken:

Crude was transferred into Tank B-21 from another tank to refloat the roof.

Applicable Regulation / Permit Condition / Other:
BAAQMD 2-6-307

Date Event Started:	Date Event Stopped:			
08/24/2018	08/24/2018	Source (S#):	Abatement Device (A#):	Emission Point (P#):

Event Description: NOV A58295 issued for not submitting reports for facility E1200 on time.

Probable Cause:

The BAAQMD has created a situation where two separate Responsible Officials are responsible for the operation and compliance of Amorco Terminal Source Nos. S-19, S-21, S-30, S-49, S-50, and S-56. The sources are listed in two separate Title V Permits, with two separate Responsible Officials. This is contrary to the intent of US EPA's Title V permitting program which requires that one single person be designated as the Responsible Official for a source. The Responsible Official for Facility #B2759 has been certifying compliance with Source Nos. S-19, S-21, S-30, S-49, S-50, and S-56, and all fugitive equipment leak components at the Amorco Terminal in every report submitted for B2759. The only sources exclusive to the Facility #E1200 Title V Permit are exempt from permitting, have no applicable requirements, and thus do not even require any reporting or compliance certification.

Corrective Action or Preventive Steps Taken:

Tesoro believes that there should be only one single Title V Permit for Amorco Terminal. A permit application was submitted to BAAQMD on July 20, 2018 to "transfer" all of the E1200 sources over to B2759 and eliminate having two Title V Permits for Amorco Terminal. A copy of the application was also sent to Ms. Deborah Jordan at US EPA Region 9 for her review.

Applicable Regulation / Permit Condition / Other:
BAAQMD 6-5-301

Date Event Started:	Date Event Stopped:				
09/12/2018	09/13/2018	Source (S#): S802	Abatement Device (A#): A30, S901	Emission Point (P#):	

Event Description: NH3 emissions from the FCCU / 7 Boiler stack exceeded 10 ppmvd @ 3% O2 (daily average). The excess was reported as RCA 07K47. This event is tied to a localized power interruption that occurred on 9/12/2018 which required the shutdown and restart of the unit.

Probable Cause:

A brief power interruption at the FCCU and 7 Boiler required the refinery to safely shut down, and then restart, the unit. During the transition from normal operations to shut down, the O2 levels in the stack were in flux, resulting in corrected ammonia concentrations in excess of 10 ppmvd @ 3% O2.

Corrective Action or Preventive Steps Taken:

The corrected ammonia concentrations returned to normal levels (i.e., less than 10 ppmvd @ 3% O2) after fresh feed to the unit was pulled, and the unit safely transitioned to a shut down condition.

Applicable Regulation / Permit Condition / Other:
BAAQMD 6-1-302, Title V-VI(11433)(2B)

Date Event Started:	Date Event Stopped:				
09/12/2018	09/12/2018	Source (S#): S802	Abatement Device (A#): A30, S901	Emission Point (P#):	

Event Description: Opacity from the FCCU / 7 Boiler stack exceeded 20% for more than 3 minutes in a one-hour period. The excess was reported as RCA 07J16. This event is tied to a localized power interruption that occurred on 9/12/2018 which required the shutdown and restart of the unit.

Probable Cause:

A brief power interruption at the FCCU and 7 Boiler caused the unit's electrostatic precipitator (ESP) to trip offline resulting in an opacity excess. Another excess was monitored several hours later, when torch oil was fed into the unit during restart.

Corrective Action or Preventive Steps Taken:

Power was restored, allowing the ESP to be re-energized.

Applicable Regulation / Permit Condition / Other:
BAAQMD 9-10-305

Date Event Started:	Date Event Stopped:				
09/13/2018	09/14/2018	Source (S#): S802	Abatement Device (A#): A30, S901	Emission Point (P#):	

Event Description: CO emissions from the FCCU / 7 Boiler stack exceeded 400 ppmvd @ 3% O2 (daily average) during restart after a brief power interruption. The excess was reported as RCA 07K46. This event is tied to a localized power interruption that occurred on 9/12/2018 which required the shutdown and restart of the unit.

Probable Cause:

The introduction of torch oil into the unit during startup caused an increase in CO emissions.

Corrective Action or Preventive Steps Taken:

The introduction of fresh feed into the unit reduced CO emissions to normal levels.

Applicable Regulation / Permit Condition / Other:
BAAQMD 6-1-301

Date Event Started:	Date Event Stopped:			
09/13/2018	09/13/2018	Source (S#): S945	Abatement Device (A#):	Emission Point (P#):

Event Description: Visible emissions were observed from the South Steam Flare during a flaring event that occurred on 9/13/2018. BAAQMD issued NOV A58301 on 9/18/2018 for visible emissions in excess of allowable standards.

Probable Cause:

Steam rate did not increase quickly enough to cease visible emissions from occurring in the first 3 minutes of a flaring event.

Corrective Action or Preventive Steps Taken:

The steam rate was increased, eliminating the visible emissions. The refinery is reviewing the flare control programming and steam control valve response to ensure that they both responded appropriately during the initial minutes of the flaring event. Adjustments to the programming and/or to the control valve may be made, if determined to be necessary.

Applicable Regulation / Permit Condition / Other:
BAAQMD 9-1-307

Date Event Started:	Date Event Stopped:			
09/19/2018	09/19/2018	Source (S#): S1401	Abatement Device (A#): A1402, A1525	Emission Point (P#):

Event Description: The SCOT plant booster blower tripped, resulting in unit shutdown and excess SO2 emissions. The excess was reported on 9/19/2018 as RCA 07J33.

Probable Cause:

The booster blower shut down on low suction.

Corrective Action or Preventive Steps Taken:

Operators reset and restarted the blower, allowing the SRU to be restarted.

Applicable Regulation / Permit Condition / Other:
40 CFR 63.670(b)

Date Event Started:	Date Event Stopped:			
09/19/2018	09/19/2018	Source (S#):	Abatement Device (A#):	Emission Point (P#): S1012

Event Description: A closed flare header isolation valve leaked when the West Air Flare water seal was being drained for planned maintenance. Gases from the flare header system leaked by the isolation valve to the flare, which was out of service at the time.

Probable Cause:

The flare header isolation valve leaked by when the water seal was being drained.

Corrective Action or Preventive Steps Taken:

The gases leaking past the isolation valve to the flare were stopped by raising the water level in the water seal. The isolation valve will be serviced or replaced.

Applicable Regulation / Permit Condition / Other:
Title V-VI(8077)(B7)(A)

Date Event Started:	Date Event Stopped:			
10/06/2018	10/06/2018	Source (S#): S971	Abatement Device (A#): A1433	Emission Point (P#):

Event Description: Furnace F-53 exceeded its NOX limit of 75 ppmvd @ 3% O2 (8-hour average) for eight hours while shutting down. The excess was reported to the District on 10/8/2018 as RCA 07J51.

Probable Cause:

A new shutdown procedure was being followed. The new procedure extended the furnace cool down time and resulted in a NOX excess that extended beyond the 8-hour shutdown exemption period allowed by permit.

Corrective Action or Preventive Steps Taken:

Furnace startup and shutdown procedures will be updated to include caution statements regarding NOX limits during periods of startup and shutdown, and incorporate language regarding the exemption periods allowed by permit. Operations and Engineering are also working with SCR catalyst suppliers to determine the feasibility of maintaining ammonia injection to the SCR for a longer period of time during shutdowns. This would help minimize NOX emissions during periods of furnace shutdown.

Applicable Regulation / Permit Condition / Other:
Title V-VI(11433)(2B), BAAQMD 6-1-302

Date Event Started:	Date Event Stopped:			
10/16/2018	10/16/2018	Source (S#): S802	Abatement Device (A#): A30, S901	Emission Point (P#):

Event Description: Opacity from the FCCU/7 Boiler stack exceeded 20% for more than 3 minutes in one hour, and 30% for 6 minutes when the ESP tripped offline. The excess was reported to the District on 10/17/2018 as RCA 07J61.

Probable Cause:

Rapid pressure swings in the boiler caused the ESP to trip offline, and increased opacity in the stack.

Corrective Action or Preventive Steps Taken:

Boiler pressure normalized after operators manually adjusted the FD fan settings. This allowed operators to reset the ESP (power restored to all T/R sets), and return stack opacity to normal levels.

Applicable Regulation / Permit Condition / Other:
BAAQMD 6-1-302, Title V-VI(11433)(2B)

Date Event Started:	Date Event Stopped:			
10/24/2018	10/24/2018	Source (S#): S802	Abatement Device (A#): A30, S901	Emission Point (P#):

Event Description: Opacity from the FCCU / 7 Boiler stack exceeded 20% for more than 3 minutes in a one-hour period, and more than 30% for six minutes in an hour. The excess was reported on 10/27/2018 as RCA 07J71.

Probable Cause:

Rapid pressure swings in the boiler caused the ESP to trip offline, and increased opacity in the stack.

Corrective Action or Preventive Steps Taken:

Boiler pressure normalized after operators manually adjusted the FD fan settings. This allowed operators to reset the ESP (power restored to all T/R sets), and return stack opacity to normal levels.

Applicable Regulation / Permit Condition / Other:
BAAQMD 9-1-307

Date Event Started:	Date Event Stopped:			
11/14/2018	11/14/2018	Source (S#):	Abatement Device (A#): A1402, A1525	Emission Point (P#): S1401

Event Description: The SRU tripped offline when a natural gas chopper valve unexpectedly closed. The sudden loss of natural gas caused a stoichiometric imbalance and emissions excess. The SO2 emissions excess was reported to the District on 11/15/2018 as RCA 07J94.

Probable Cause:

During startup, safety bypasses were activated in an incorrect order. This resulted in the unintended shutdown of natural gas.

Corrective Action or Preventive Steps Taken:

Emissions returned to normal as soon as natural gas was restored to the unit.

Applicable Regulation / Permit Condition / Other:
40 CFR 60.104(a)(1)

Date Event Started:	Date Event Stopped:			
11/26/2018	11/26/2018	Source (S#): None	Abatement Device (A#):	Emission Point (P#):

Event Description: An indicated excess was monitored in the 40-lb fuel gas mix pot. The H2S concentration exceeded 162 ppm (3-hr avg). The excess was reported to the District on 11/27/2018 as RCA 07K08. (Note that this excess was reported separately from the excess monitored in the 100-lb fuel gas system; however, the excesses are one deviation.)

Probable Cause:

The main instrument air line branch failed, causing an emergency shutdown of the sulfur recovery unit and the ammonia recovery unit. H2S in the refinery's 40-lb and 100-lb fuel gas systems increased as a result of the unit upsets.

Corrective Action or Preventive Steps Taken:

Emergency repairs to the main instrument air supply were made, allowing the SRU and ARU to restart, and H2S levels in the refinery's 40-lb and 100-lb fuel gas systems to return to normal. Inspection frequency of the main instrument air line will be increased.

Applicable Regulation / Permit Condition / Other:
40 CFR 60.104(a)(1)

Date Event Started:	Date Event Stopped:			
11/26/2018	11/26/2018	Source (S#): None	Abatement Device (A#):	Emission Point (P#):

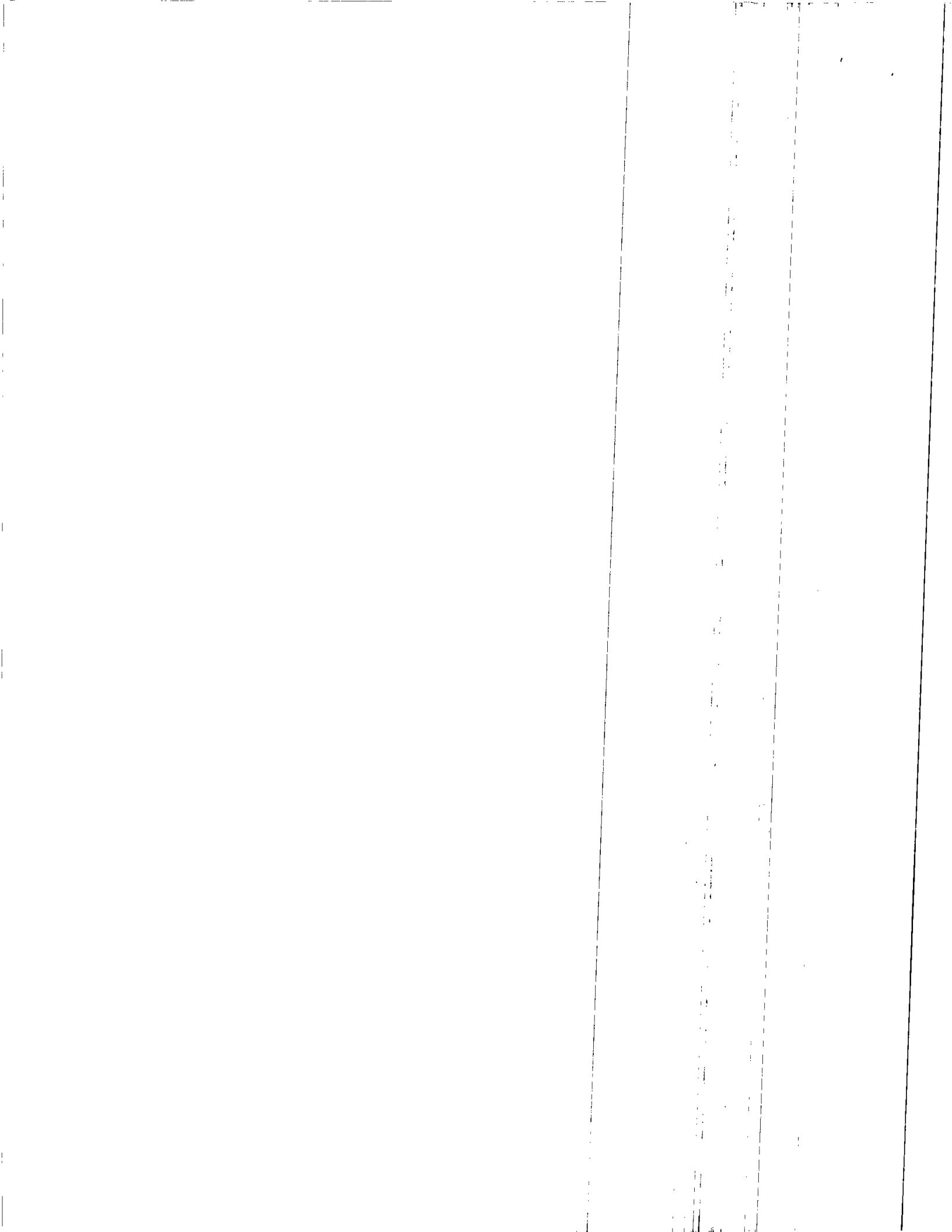
Event Description: An indicated excess was monitored in the 100-lb fuel gas mix pot. The H2S concentration exceeded 162 ppm (3-hr avg). The excess was reported to the District on 11/27/2018 as RCA 07K06. (Note that this excess was reported separately from the excess monitored in the 40-lb fuel gas system; however, the excesses are one deviation.)

Probable Cause:

The main instrument air line branch failed, causing an emergency shutdown of the sulfur recovery unit and the ammonia recovery unit. H2S in the refinery's 40-lb and 100-lb fuel gas systems increased as a result of the unit upsets.

Corrective Action or Preventive Steps Taken:

Emergency repairs to the main instrument air supply were made, allowing the SRU and ARU to restart, and H2S levels in the refinery's 40-lb and 100-lb fuel gas systems to return to normal. Inspection frequency of the main instrument air line will be increased.



Applicable Regulation / Permit Condition / Other:
BAAQMD 8-5-304(4)

Date Event Started:	Date Event Stopped:			
12/08/2018	12/15/2018	Source (S#): S664	Abatement Device (A#):	Emission Point (P#):

Event Description: While investigating odors that were reported onsite, operators discovered rainwater and product on the roof of Tank A-664 on 12/8/2018.

Probable Cause:

A leak was discovered on a tank leg close to the center of the floating roof.

Corrective Action or Preventive Steps Taken:

Upon discovery of the product on the roof, the tank was isolated so that the rainwater and product could be removed from the roof. The tank was emptied and degassed, and the roof was repaired.

Applicable Regulation / Permit Condition / Other:
Title V-VI(24323)(8)

Date Event Started:	Date Event Stopped:			
12/13/2018	12/14/2018	Source (S#): S1524	Abatement Device (A#):	Emission Point (P#):

Event Description: The refinery fuel gas control valve to the 50 Unit Flare pilots cracked opened intermittently.

Probable Cause:

The fuel gas control valve to the 50 Unit Flare pilots cracked open intermittently.

Corrective Action or Preventive Steps Taken:

The refinery is progressing plans to safely isolate the fuel gas line from the pilots to ensure that fuel gas can only be sent to the pilots during natural gas curtailment.

Certification Statement:

I certify under penalty of law that based on the information and belief formed after reasonable inquiry, the statements and information in this document and in all attachments and other materials are true, accurate, and complete.

Signature of Responsible Official	Thomas A. Lu	Vice President, Martinez Refinery	1/22/2019
	Print Name	Title	Date

CERTIFIED MAIL

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FIRST-CLASS

PITNEY BOWES

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TESORO

Tesoro Refining & Marketing Company LLC
Martinez Refinery
150 Solano Way
Martinez, CA 94553-1487

Mr. Jeffrey Gove, Director of
Enforcement
BAAQMD
375 Beale Street, Suite 600
San Francisco, CA 94105

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